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Editorial

What Youth Are Asking

Students in 200 colleges were recently asked by the Office of War Information what questions were uppermost in their minds at the present time. Three questions that emerged with notable frequency were these: (1) Does the country really need more educated men now? Or should we all plan to go either into the Army or into production jobs? (2) What kind of world are we going to graduate into after this war? (3) What changes in education may we expect as a result of this war?

The students' questions were answered by representatives of the War Manpower Commission, the National Resources Planning Board, and other governmental agencies.

On the first query the reply was:

> The problem is how many men can be kept in schools and colleges to provide the trained, educated personnel needed for both the armed services and the war industries, while we also meet the immediate requirements of the armed forces and of industries. So far as they are free to do so, it is wiser for men to continue their education but to direct their studies toward greater war usefulness.

To the query on the world after the war the National Resources Planning Board was quoted to this effect: "One thing is sure. We are not going back to where we are. One of the few certainties in the world is inevitable change. We cannot stop the march of progress if we wanted to. We are going forward with restored confidence in the democracy and liberty which underlie our civilization. But we can do something about the direction of the changes that will follow victory. For that reason we propose to plan ahead." The Planning Board report further points out that it is essential to think, not in terms of what is going to happen, "but of what we want to attain." It mentions the numerous plans now under consideration looking to post-war full employment, security, and "building America." It recalls what President Roosevelt said to the International Student Assembly in September of last year:

> The better world for which you fight—and for which some of you give your lives—will not come merely because we shall have won the war. It will not come merely because we wish very hard that it would come. It will be made possible

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only by bold vision, intelligent planning, and hard work. It cannot be brought about over night, but only by years of effort and perseverance and unfaltering faith.

As to changes in education that may be expected as the result of the war, the youth were told that the necessity of technical and vocational education will undoubtedly be emphasized, since training for specific jobs will be just as necessary in the post-war situation as during the war; that we must be interested in the implications for our country of events and conditions in every corner of the world, and hence will have to give more attention in the future than we have in the past in schools and colleges to the social sciences as essential for an understanding of international affairs; that "there will also be a need for reorientation to the new world of ideas and discoveries through science, and to the larger world of other peoples and other cultures with whom we must collaborate in establishing world order," and that to this end there must be a renewed concern for clarifying human values and aspirations toward which we can direct our group activities and our personal lives.

One can only hope that the OWI answers really represent what America plans to do on education now and after the war. High-school and college students are looking ahead, are concerned about the right kind of planning for the future; so are the foremost national leaders everywhere. But will the mass of older adults who decide these issues—many of them in important legislative posts in state and nation,—see it in terms of the needs of youth?

Freezing Teacher Employment?

War situations change so rapidly that it is never safe to describe a statement of policy except in terms of a given date. This is particularly true of the manpower situation, and has to be taken into account in discussions of the question as to possible "freezing" of teacher employment. On February 9th, 1943, the Research Division of the National Education Association pointed out in its Release No. 4 on Manpower and the War that Selective Service has certified educational services as "essential to the war effort." Under this interpretation men teachers with dependents would be reclassified as III-B.

As to actual "freezing of positions," the Research Division says that up to the date given the facts were as follows:

(a) The national office of the War Manpower Commission has not issued any nationwide rules (1) requiring teachers to obtain all new teaching positions

through the U. S. Employment Service, or (2) requiring teachers to stay for the duration in their present teaching positions.

(b) Regional Manpower Offices can issue "work stabilization" orders, as has been done for the Detroit and Minneapolis areas. These stabilization orders do not "freeze" present employment, but they do require an "essential" employee to obtain a release from his present employer or the U. S. Employment Service before he can be employed by a new employer. An "essential" worker is, in general, one who is engaged in "activities required for the war effort, and any activity required for the maintenance of the national safety, health, or interest."

The Research Division points out that in areas where work stabilization plans have been issued, the mobility of teachers now under contract has been restricted—chiefly through restrictions placed upon private employment. It notes that in so far as these orders reduce the influx of teachers into war industry it is a good thing for schools and children, since most school systems are having difficulty maintaining adequate staffs. On the other hand, as the National Education Association is quick to add, to the extent that these restrictions encourage school boards to avoid paying adequate salaries or to refrain from making deserved promotions, the work stabilizing orders will be destructive to teacher morale and to efficient administration. This is a situation that will have to be carefully watched by local and state educational associations.

Self-Education through Research

It is particularly encouraging to find associations of teachers carrying on research on their own. Recently, for example, the Department of Classroom Teachers of the North Carolina Education Association, through its Committee on Research, initiated a program which, while starting modestly, has possibilities for a type of self-education that is alike valuable for the teachers themselves and the schools and communities they serve.

The researches planned represent both immediate needs of the teachers and the children, and problems that lie deeper as well. That they will have the enthusiastic support of university and college faculties and such agencies as the Bureau of Educational Research and Service of the University of North Carolina goes without saying. It is quite possible that, in thus taking the initiative, this group of teachers may affect university research in the field of education in such a way as to improve its quality as well as to bring graduate study more closely in line with the needs of the schools.

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Educational News and Events

The War Manpower Commission and Youth under Eighteen

On January 30th, 1943, the War Manpower Commission issued a statement of policy on employment of youth under 18 years of age. Pointing out that "the first responsibility and obligation of youth under 18 even in wartime is to take full advantage of their educational opportunities" and "in most cases youth under 18 can best contribute to the war program by continuing in school and, when their services are required, accepting vacation and part-time employment," the commission sets up the major items of national policy in the following ten points:

1. Existing school attendance and child labor standards should be preserved and enforced.

2. No one under 14 years of age should be employed either full time or part time.

3. Children of 14 and 15 should be employed only when older workers are not available and not in manufacturing or mining occupations.

4. Youth under 18 should be employed only in non-hazardous work suited to their age and strength; they should be employed for not more than 8 hours a day or 6 days a week, except as deviations may be necessary in agricultural work, or as temporary departures may be necessary to meet a special emergency; they should receive the wage paid adult workers for similar job performance.

5. Combined hours of school and work, at least for youth under 16 years, should not exceed 8 a day.

6. School youth should not be employed during school hours, except when temporary emergency needs cannot be met in any other way and in such cases school programs should be so adjusted that educational progress is safeguarded.

7. In cooperative arrangements between school authorities and war industries for the part-time employment of school youth, the employer should be responsible for the observance of these standards and the school authorities should be responsible for permitting school children to take only jobs that will contribute to their educational welfare and useful work experience.

8. When young people must be transported to and from work, safe means of transportation should be provided and the period of work and transportation should not exceed 10 hours a day.

9. Where youth under 18 years are recruited in groups for agricultural work requiring them to live away from home, assurances should be furnished in advance that suitable living conditions, health protection, supervision, etc., will be provided; and youth under 16 should not be recruited for work requiring them to live away from home except in connection with programs of recognized youth serving agencies.

10. Youth should not leave their place of residence in search of work else-

where without having registered in the office of the U. S. Employment Service, presented evidence of parental consent, and been referred by such office to a specific job in a locality where there are suitable arrangements for housing.

The New Emergency Federal Aid Bill

The Thomas Bill, to be known as the "Educational Finance Act of 1943," was introduced in the United States Senate on February 4th (Senate Bill 637, 78th Congress, 1st Session). The purpose of the bill is declared to be "to authorize the appropriation of funds to assist the States and Territories in more adequately financing their systems of public education during the emergency, and in reducing the inequalities of educational opportunities through public elementary and secondary schools."

One of the most conspicuous features of the new measure is the strong pronouncement on state control with which it opens:

> No department, agency, or offices of the United States shall exercise any supervision or control over any school or State educational agency with respect to which any funds are expended pursuant to this act, nor shall any term or condition of any agreement under this act . . . authorize any agency or officer of the United States to control the administration, personnel, curriculum, instruction, methods of instruction, or materials of instruction.

The bill appropriates $200,000,000 for the purpose of—

> enabling the states and their local public-school jurisdictions to meet emergencies in financing their public elementary and public secondary schools by providing funds for the payment of the salaries of teachers to keep schools open, to employ additional teachers to relieve overcrowded classes, to raise substandard salaries of teachers, and to adjust the salaries of teachers to meet the increased cost of living.

A further appropriation of $100,000,000 is made for equalizing public elementary and public secondary school opportunities among and within the States.

Conditions under which apportionment is to be made from the $200,000,000 fund are defined as follows:

> The amount apportioned to each State . . . shall be an amount which bears the same ratio to the total amount made available as the average daily attendance (for the latest year for which data are available in the Office of the Commissioner) of pupils attending all types of public elementary schools (including kindergartens and nursery schools) and public secondary schools (including through the fourteenth grade) in that State bears to the total of such average daily attendance for all the States.

"New Tools for Learning"

New York University Film Library, the University of Chicago Round Table, and the Public Affairs Committee, Inc., have established a consultation office at 7 West 16th Street, New York City. The new organization is called *New Tools for Learning,* and is directed by Marion Humble, formerly in charge of educational publicity for the Public Affairs Committee.

New Tools for Learning offers to teachers and discussion group leaders coordinated programs of films, recordings, radio transcripts, and pamphlets. A classified catalog of materials is available on request.

Community Education

(From a 1942 Report of the Commission on Teacher Education, American Council on Education.)

Before the war of 1917-18 the schools of this country were predominantly teacher-directed and subject-matter centered. Since that time under the impact of the progressive education movement there has been a decided trend toward centering the work of the school around the needs and interests of the children so far as those needs and interests could be determined. The rapidly developing science of education has given teachers a much more nearly accurate and usable body of knowledge of how children develop at various ages and what experiences are needed in order to assure a wholesome and normal development. As this knowledge has been applied with increasing skill and discernment, however, teachers have been forced to realize that the child cannot be made a curriculum center. He and the teacher and the school are all vital and inseparable parts of the larger community and the optimum development of any part is possible only as the other parts are considered and provision made for their optimum development.

The spread of this idea has made some radical changes in the educational programs of some communities. The school is not *in* a community, it is *of* it. Children do not "go to" and "get out of" school any more than they "go to" and "get out of" home. The schoolhouse becomes a place where changing groups of boys and girls, men and women, assemble for study, recreation, creative activities, discussion, hobbies, planning—all education in this new and larger sense.

Clearer vision may show that the restrictions of war will make such changes more desirable and may even force them, but only if teachers able to handle such work are available.

What Price Rural Education?[1]

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WE HEAR many discussions of the effects of rural to urban migration upon rural communities, though usually few statistics or illustrative facts are given. It happens that I have had the privilege of being reared in a rural community, Decatur County, in northwest Kansas, and of teaching in the schools at Oberlin, the county seat of Decatur County. While there and since I have made some observations and collected some facts relating to the movement of young people from rural communities. I have also been interested in the part education seemed to play in this process. There are many uncontrolled factors in my observations, but the details I relate are true for the community in which I worked. Whether they would be true for other rural communities I cannot say. I believe they would be duplicated in many places. At least they are interesting, and provide some food for thought.

In the spring of 1933 I closed my teaching career in the Decatur Community High School at Oberlin, Kansas. The population of the town was about 1600, and the enrollment of the high school in 1933 was about 300. At the time I left, a group of twenty-one young men who had been on athletic or debate teams which I coached formed an informal organization to keep in touch with each other and with me over the years to follow. All these young men were graduates of the high-school classes from 1931 to 1936. I have followed their careers since their graduation, and the course of events up to September 1, 1942 should make very interesting reading for those concerned with rural life and rural education.

Twenty-One Boys

A brief description containing certain salient facts about the twenty-one boys is necessary for the succeeding discussion. These are given in the following descriptions. Those starred are now in some branch of the armed services.

*1. John, son of a farmer owning his own farm. An honor student. Now a graduate of Kansas University. Profession—Medicine. In army reserves.

*2. Ellis, younger brother of John. An able student. Now a graduate of Kansas University. Prepared for teaching public-school music, or for a band directorship.

[1] Also published in the Spring issue of *Land Policy Review*, official organ of the Bureau of Agricultural Economics, United States Department of Agriculture.

*3. Morris, son of a farmer owning a small dairy farm. An average student, or slightly above. Never attended college. Went to Boise, Idaho, where he worked in a garage for several years. Later became asistant manager of an auto accessories store in Los Angeles.

*4. Bruce, a very able student, son of the local Christian minister. Now a graduate of Indiana University, and later band director in the Culver, Indiana, high school.

*5. Ben, son of a farm-owner, who moved to town about the time Ben started to high school. A very able student. Went to Boston where he graduated from the McLean Psychiatric Hospital. Now a supervisor at the Kings County Hospital, Brooklyn, New York, and a student in the medical school of New York University. In army reserves.

6. Milo, son of a farmer owning his own farm. A good student. Attended two years at Kansas State College in the course in architectural engineering. Left college to work for a construction firm and a paint company in Denver, Colorado. Now working as designer in an aircraft factory at San Diego, California.

7. Dean, the son of a tenant farmer. A very able student, now a graduate of Kansas Wesleyan. Always vitally interested in social problems, he is now in an executive position in the American Friends Service Committee in Philadelphia.

8. Ray, younger brother of Dean. An able student. A graduate of Fresno State College, Fresno, California (his parents were members of the "Great Migration"), his interest in social problems has taken him into the field of religious education. Now a graduate student in the Pacific School of Religion, at Berkeley, California, and pastor of a church in Pittsburg, California.

*9. Luther, son of a farm-owner. An average student, Luther graduated from Ottawa University, Ottawa, Kansas. Abandoning an original plan to teach, he went to work in the laboratory of an oil-refining company. Later went to Santa Monica, California, where he worked with a construction company.

*10. Perry, son of the city's photographer. A very able student. A graduate of the University of Kansas Medical School, he is now in the Naval Medical Corps at San Diego, California.

11. Elmer, son of a tenant farmer. A below-average student. Started in chiropractice school, but left at the end of a year to run a filling station in Kansas City, Kansas. Now working in an aircraft factory at Los Angeles, California.

*12. Alvin, son of a tenant farmer. Alvin was an average student. Did traveling sales work for several years, but in 1940 joined the Army Air Corps. Now stationed in Texas.

13. Carl, son of a tenant farmer. Good student. Graduate of Phillips University, Enid, Oklahoma. Carl is now supervisor of a department in the Sears, Roebuck store in Muskogee, Oklahoma.

*14. Otis, son of a land-owning farmer. Able student. Graduate of Kansas State Teachers College at Hays, Kansas. Now a partner in a real estate business and secretary of a building and loan association in Topeka, Kansas.

15. Harry, son of the widow of a tenant farmer. Harry moved to town about the time he entered high school. An average student. Entered the navy and served four years. Now working in the United Aircraft Corporation at San Diego, California.

16. Donald, son of a land-owning farmer. Very able student. Taught in rural schools of his home county for several years. Later graduated from Kansas State Teachers College at Hays, Kansas. Is now working on a doctorate in the field of clinical psychology at the University of Chicago, and serving as an assistant to Dr. L. L. Thurstone.

*17. James, younger brother of Donald. Able student. Returned to the farm where he worked actively with his father.

*18. Leo, son of a tenant farmer. Very good student. A graduate of Kansas State College, Leo taught for four years in the high school at Colby, Kansas, about sixty miles from his home high school.

*19. Lewis, son of a tenant farmer and rural minister. A good student, Lewis graduated from Phillips University at Enid, Oklahoma, in the field of public school music. Entered the air corps, and was killed while serving as a flying instructor at Pensacola, Florida, in March 1942.

20. Arthur, son of the vocational agriculture teacher of the high school. Very able student. Graduate of the course in electrical engineering at Kansas State College. Became a research assistant and instructor in Massachusetts Institute of Technology. Now serving the government as a special consultant.

*21. Melvin, son of a land-owning farmer. A good student. Graduate of the college of agriculture, Kansas State College, Manhattan, Kansas. Served for a time with the United States Department of Agriculture, working at soil conservation in Kansas. Later was a faculty member in agricultural engineering research at the University of Illinois.

EIGHTEEN WERE FARM YOUTHS

There are certain important facts to be noted. Of the twenty-one boys, eighteen were farm youths while only three came from the small city of Oberlin. Of the entire group of twenty-one, only one has stayed in his home community, and this single individual is the only one of the eighteen farm youth remaining on the farm. Of the eighteen farm boys, nine were the sons of tenant farmers and nine the sons of farm owners.[2] Knowing these boys intimately I can rate their capabilities as students. Only one could be rated as below average, five were average students, and fifteen were above average students, several of them brilliantly so. These boys were distinctly among the leaders of the school youth and the young people of the community. While the members of this group are undoubtedly above the average in ability and leadership, they were unselected except as their active interests brought them together in a natural grouping in the first place. Whether they would have been leaders twenty years hence, had they remained in the rural community no one can say, though I can suggest no better index to later leadership than to say that these boys were leaders during their school life. There were also some other young men of ability who remained in the community, but I think I am fair and accurate in saying that their leadership and scholastic attainments lacked much of measuring up to the attainment of this group. Nor were these twenty-one young men the only young men from those graduating classes who left the community.

LEADERS REMOVED FROM THE COMMUNITY

This particular community, then, seems to have been in the position of supporting an educational program which was largely instrumental in removing from the community the best of their potential leaders. This has been costly to the community both in terms of finance, and probably in terms of social progress. Certainly the people of Decatur County went to a heavy expense in providing these boys—and others like them—with an education which they, except in the case of four of the boys, never used in their own community for a single day.

Of course the money expended was for the most part paid back into the community for salaries and school supplies, and so was not lost to it. The expenditure by the taxpayers for the schools meant sacrifice in some other direction, however, since the money could be spent only once by those who made it. Doubtless many parents and

[2] The figures on the extent to which these farm owners retain full equity in their farms is not available to me. I know that during the depression many of the farmers lost a large share of their equity in the farms.

taxpayers sacrificed such things as medical attention, farm improvements, and better homes to provide the education they desired for their children.

Some will point out that while these boys left, others whose education had been provided elsewhere came into the community to take their place. This particular county, like many other agricultural counties, lost population from 1930 to 1940. In 1930 the population of Decatur County was 8,866, in 1940, 7,434, a net loss of 1,432. By 1942 the population had declined to 6,583. It is very doubtful whether the people moving into the county during this period possessed either the potentialities or the educational attainments of those who left. In any exchange of this sort the rural community is almost certain to be the loser.

THEY WENT TO THE CITIES

It is interesting to note how many of these boys have migrated to large cities, probably to communities better able to support education,[3] and probably with a smaller child-adult ratio than the one which they left. They have been claimed by Boston, New York, Los Angeles, Philadelphia, San Diego, Chicago, and Berkeley. More interesting and probably more to the point is that most of the boys through their service in the armed forces and the defense industries are directly in the service of the nation as a whole, rather than any one particular community.

Nor is the financial drain on the community yet done. All of the boys have yet to come into their legal inheritance at the demise of the parents. When this happens there will be another financial payment by the community to other communities. For example, the brothers, John and Ellis, are the only children of a father owning a half-section of land. Upon his death, if his holdings are still intact, the farm will be owned by absentee landlords, since both of the boys have left the farm. There will then be a tribute in the form of rent leaving the county annually. Or if the heirs sell the farm, then payment must be made to them from the produce of the farm. This is another way of making the rural communities the financial debtors of the populous centers, in the majority of these cases in states which are already wealthier than Kansas.

There is another serious drain on the rural communities if this situation is typical. The capable, able young men with the capacity for rural leadership are being removed from the rural communities

[3] In his study *The Efforts of the States to Support Education*, Lyle Ashby ranked the states according to their ability to support education. Using his data, it is interesting to note that thirteen of the boys have gone to work in six states, California, Indiana, New York, Massachusetts, Illinois, and Pennsylvania, with tax resources greater than Kansas, while one boy went to one state, Oklahoma, with tax resources less than Kansas.

as fast as they are educated to the point where they can assume positions of leadership. What this means in terms of the social and long time well-being of the rural community cannot be demonstrated quantitatively, but the implications are obvious.

NEED FOR EQUALIZING EDUCATIONAL OPPORTUNITIES

I am not a rural sociologist, but as an educator and one acquainted with rural communities certain facts seem obvious. All evidence points to the importance of providing for the equalization of educational opportunities. Otherwise rural communities in their efforts to educate their young are constantly put to a greater and greater disadvantage as a result of these very efforts. Especially is the equalization of educational costs through the use of Federal funds justified when so many youth are being brought into the service of the nation as a whole. It becomes increasingly a matter of concern to the citizen of Massachusetts that the boy from Louisiana have proper educational opportunities. After all, both live in the same nation, and are equally affected if its defense fails.

The solution is not to stop movement. This is neither possible nor desirable in a highly industrialized and rapidly changing social organization. Simply to think in terms of the national war effort should be enough to convince the most skeptical that the nation could not exist without migration. Further, since the birth rate is higher in rural districts and opportunities fewer, migration is an essential factor in relieving population pressure and maintaining living standards in these districts.

Also some method of regulating the flow of inherited wealth from rural communities seems essential. This problem is accentuated by the differential birth rate, which means that for years to come there will be a steady stream of persons moving from the rural to the urban districts.

It also points to the need for more attractive and inviting rural communities, both in terms of opportunities and surroundings. The present educational emphasis on rural life and better farms and farm homes, where it does exist, is all to the good. Many schools now have vocational agricultural departments and 4-H clubs which should be of definite assistance in interesting some of the more capable youth in farm activities, and in encouraging them to stay on the farm to assume positions of rural leadership. Beyond all this, however, is the need for the development of economic arrangements which operate to the greater advantage of the rural districts.

DOES CONSOLIDATION WORK AGAINST RURAL LIFE?

One also wonders whether the consolidation of schools may not work against the building of a strong rural culture. Usually in consolidation the children are brought into the nearest urban community where the school and its program is likely to be dominated by a school board or a school administration which is predominately urban in point of view. Sometimes consolidation results in a complete breakdown of community unity and cohesion. The school, with the teacher as a leader, may have been the chief unifying force in the community. When this force is eliminated and the children are sent to relatively distant schools in an urban community, rural community life breaks down, and rural life becomes still more unattractive.

In view of these conditions we need to take careful stock of the costs and results of rural education and rural social organizations as they now exist.

If our nation is to increase in liberty, it must restore to common men the responsibility for solving their own social problems. In order to realize this aim, it must facilitate the processes of group thinking, and trust in the improvement of the common judgment through practice in the honest clearing of fearless opinion. It must place less and less hope in authority as such, and depend more and more upon social and economic experimentation.

—FRED G. WALCOTT in the *University of Michigan School of Education Bulletin.*

As educators we face two alternatives. We can educate the next generation to believe that the United States has a mission to become a great imperial power, enforcing order throughout the world, guaranteeing a state of peace through the threat of force, maintaining a great army and navy to enforce peace. Or we can educate the next generation to believe that the United States must join with other nations, victor and vanquished working together as equals, to remove the causes of war, to make the necessary sacrifices and compromises, to eliminate national armies and navies and to make peace a common value of all people everywhere.

—ROBERT J. HAVIGHURST in *School and Society.*

Agricultural Child Labor in Wartime

COURTENAY DINWIDDIE
General Secretary of the National Child Labor Committee

The outlook for a more intelligent handling of the problem of the use of children in agriculture seems somewhat more hopeful this year than last. All of the educational work that has been done, the conferences and discussions of satisfactory procedures that have taken place between the various government departments, and the advertising of projects that were well conducted, as well as the dissatisfaction of farmers with last summer's experiences, are bearing fruit. Intensive and continuous activity will be necessary to insure against abuses, but fairly good groundwork for this has been laid.

The Victory Farm Battalion plan worked out by the Office of Education, whereby there will be a definite program of preparation of high-school children for farm work, has taken shape and is being discussed widely through the schools of the country.

A plan is under way for the Extension Service of the U. S. Department of Agriculture to secure additional appropriations for furnishing certain liaison persons to serve in areas where there is greatest need in coordinating the efforts of the various agencies interested in farm production, the schools, and also groups of citizens and youth serving agencies. There has been discussion between the Manpower Commission, the Office of Education and the Department of Agriculture, of their several approaches to the problems of youth in agriculture. The U. S. Children's Bureau is now being taken more definitely into this planning.

Several states are beginning earlier to plan more carefully for the selection, preparation, transportation and supervision of children who will be recruited in groups for farm work. For example, California which had a very uneven experience last year, due to lack of uniformity in procedures and supervision, is now preparing to remedy the defects in its last year's program.

We are particularly pleased over the accomplishments in New York State, where definite appropriations are being asked for a plan of recruiting, training, supervising, transporting and providing insurance protection for boys and girls in farm work. The Young-Milmoe Bill will be extended, and other measures for readjusting school programs proposed, such as permitting classes to be held on Saturday. There is much yet to be done in developing a satisfactory program for New York State, but at least a number of moves are being made in that direction.

How Non-Farm Youth Can Help in Wartime Agriculture

WAYS IN WHICH American youth can help the farmer get in the 1943 crops successfully without injury to themselves and the schools are described in a bulletin just issued by the Children's Bureau.[1]

The experience of 1942 shows, says the bulletin, that young people from cities and towns, even when they are inexperienced in farm work, can aid farmers effectively if they are well supervised: "In many places last year boys and girls of high-school age took a big part in getting in crops, like berries, fruit, and vegetables. They can and will do much more in 1943."

But before boys and girls are taken out of school to do this work, says the Bureau, it should be certain that there is no one else to do it. "Education is important in wartime as in peacetime, and the future manpower needs of the Nation would be endangered if boys and girls were deprived of schooling for any considerable period. When school youth must be called upon to help in the emergency during the school term every effort should be made to adjust the school program so that lost school work can be made up."

Needs Will Vary

The need for these young workers will vary in different parts of the country, the Bureau points out. Since the types of crops vary, as well as the rate at which labor has been drafted into industry and the amount of adult labor available in different areas, "plans to recruit city boys and girls for work on farms should not be made until the official agencies have found that there will not be enough older workers available and that there is need for the particular type of project under consideration."

Three types of programs will need to be provided for, according to the Bureau's findings: (1) day-hauls from urban centers, (2) individual placements on farm, and (3) work camps. In most cases, as officials see it, the young workers will live at home and work by the day, either on nearby farms or on farms at a greater distance to which they are taken daily. In other cases it will be necessary for the young workers to live in the rural area where they are to work.

[1] "Guides to Successful Employment of Non-farm Youth in Wartime Agriculture." Prepared by the Children's Bureau, U. S. Department of Labor, in consultation with the U. S. Department of Agriculture, the Office of Civilian Defense, the Office of Education, Federal Security Agency, and the War Manpower Commission, and approved by these agencies. Washington, Government Printing Office, 1942. (Children's Bureau Publication 290).

If they are to do general farm work throughout the season, they will probably live in farm homes. If large numbers of young workers are required from outside the area for harvesting work, they will probably live in work camps.

GUIDING PRINCIPLES ARE ESSENTIAL

If the use of young people as emergency farm workers is to be successful, says the Bureau, it must not only give the farmers efficient labor but at the same time give the young people an experience that will hold their interest and contribute to their educational growth and healthy development. Hence the Children's Bureau and the other Federal agencies concerned with this problem have worked out certain "guides," or guiding principles, which they regard as essential.

Limitation of recruitment to boys and girls old enough and sufficiently well-developed physically to work efficiently and without undue strain is insisted upon first of all. As the result of previous experience the following requirements are urged as a basic policy for selecting recruits for agricultural work:

Minimum age of 14 years,[2] when the young workers live at home and go to work by the day;

16 years when the young workers live away from their families in farm homes or work camps (except that when the work is part of a camp program conducted by a recognized youth-serving agency that provides close supervision, a minimum age of 14 years is suitable).

Age proved by documentary evidence of date of birth or school record.

Written consent of parents.

Physical fitness for the job. Physical examinations should be given wherever possible. Where this is not possible, school health records should be consulted. (Although resources for physical examinations may be limited, every effort should be made to utilize whatever resources there are or can be made available in the community, such as private physicians, public-health departments, clinics and health agencies in urban centers, and school health facilities.)

NON-FARM YOUTH NEED PREPARATION

Young people who have little or no previous experience in doing farm work need special preparation and training for the work and continuous supervision on the job to enable them to meet the farmer's labor needs satisfactorily, says the Bueau.

"The young workers must be helped to understand the purpose of the program and the importance of the contribution they can make to the war effort. Preparation that builds good attitudes, a

[2] Under the Fair Labor Standards Act, if the producer ships goods in interstate commerce, a minimum age of 16 applies to minors employed in agriculture while legally required to attend school; under this act also, a minimum of 16 is established for work in canneries or other food-processing plants.

sense of responsibility and respect for the job will help to prevent carelessness, waste of time, accidents, and destruction of crops and property.

"The young workers need advance information on what to expect in the work they are going to do. Misleading publicity that advertises the job as a vacation seriously interferes with the development of good work attitudes and should be avoided. The recruits should be told what the farmer will expect of them and what will be the probable conditions of work. If they are to live away from home, they should also be told about their probable living arrangements. They should be shown how to do the work efficiently and without injury to themselves or other workers.

"Such preparation for employment should be a part of the program of the schools from which recruits are drawn, and it should reach out-of-school youth recruited for employment as well as those in school. Activities to prepare youth for effective participation in the farm program can also be conducted by youth-serving agencies and by youth organizations."

GOOD CONDITIONS OF WORK

Special care is urged to make certain that working conditions are suited to the immaturity of boy and girl farm workers. The following standards are set up:

HOURS

Not more than 8 hours of work a day. (Not more than 6 hours is desirable for children of 14 and 15.) Some variations may have to be allowed under emergency conditions for older youth who live in farm homes and are employed as general farm hands. (During the first few days of work shorter hours are desirable to permit inexperienced workers to become accustomed to the work.)

Not more than 6 days of work a week, except that young persons employed as general farm hands may do morning and evening chores on the seventh day.

Lunch and rest periods.

WAGES

Same wages—whether piece or hourly rates—as those paid to older beginning workers for the same type and amount of work.

Payment of wages in cash and prompt payment at times agreed upon.

SANITARY FACILITIES

Sanitary toilet and washing facilities available to the young workers while at work.

DRINKING WATER

Adequate supply of drinking water from approved sources.

SAFETY AND INSURANCE MEASURES

Protection against accidents on the job through—

Farm equipment in good working order;

Training in safe methods of work;

Assignment of work involving the handling of animals, tractors, machinery, and dangerous tools and implements only to older youth trained in their safe use;

Supervision on the job by persons trained in safe work methods;

Provision of first aid and medical care in case of injury while at work. (Wherever practicable the field foremen or group leaders should have had the American Red Cross First Aid and Home and Farm Accident Prevention courses.)

Payment of expenses in case of injury while at work. Coverage by workmen's compensation insurance should be encouraged wherever possible.

SAFE TRANSPORTATION

Transportation to and from work only in vehicles that are in safe mechanical condition and maintained in full compliance with State laws and regulations. Busses and automobiles should be used in preference to trucks. Where trucks must be used, seats should be provided and sides and rear should be enclosed. The use of steps in getting in and out of trucks will also reduce accidents.

Vehicles driven by responsible licensed adults who follow safe driving practices.

Avoidance of overcrowding in vehicles.

Coverage by adequate liability insurance.

Training of young workers in safe conduct while being transported to and from work and supervision during transit to prevent accidents.

Observance of these conditions is urged by the Children's Bureau as not only essential to the protection of young farm workers but also as a measure for gaining community support and cooperation of parents in the program.

WORK CAMPS

Where work camps are used the living conditions will need to conform to good camping standards, the Bureau insists—in health, safety, sanitation, staff, program, insurance, and administration. Such standards as those developed by the American Camping Association are especially commended:[3]

"The camp site and facilities should have the approval of the appropriate public-health agency. In order to protect health the camps should be careful to comply fully with State and local laws and regulations regarding water and milk supply, sewage disposal, and other sanitary conditions. Arrangements must be made to have first aid, medical care, and hospitalization readily available in case of illness or injury among the campers.

[3] "Marks of Good Camping." Association Press, 347 Madison Avenue, New York City. (Price 75 cents)

"A balanced diet adequate for young people doing heavy outdoor work is essential. Home-demonstration agents, health-department nutritionists, and home-economics teachers can be helpful in planning meals. A leaflet on dietary standards, the Yardstick of Good Nutrition, published by the Committee on Food and Nutrition of the National Research Council, should be useful.[4]

"Each camp should have a qualified director in charge, with a sufficient number of assistants to give adequate supervision. A good arrangement is for some of the camp staff to work in the fields and also act as group leaders there, as well as to give supervision in the living quarters. The supervisory staff should have had leadership experience with young people in group activities.

"For the young people to benefit from the group living experience, the staff will need to know how to conduct the camp on an informal, cooperative, and democratic basis. One of the key responsibilities of the staff is to arrange for recreational and social activities for the young people outside of working hours and during days when weather or other conditions make it impossible to work. Teachers, especially those familiar with progressive educational methods and with vocational training in agriculture, and staff members from organized camps and leisure-time agencies, are a major resource for the type of leadership needed."

Similar precautions as to placement of young workers are recommended for farm homes and quarters provided by the farmer.

COOPERATION OF VARIOUS ACTIVITIES

Both public and private agencies will need to cooperate to make the farm employment of youth successful, the Children's Bureau points out. Agricultural agencies will have the task of determining need, assisting the farmers, recruiting and placing the boys and girls, determining the prevailing rate of wages in the area, arranging transportation and housing, maintaining standards of working and living conditions. The defense councils will ordinarily assist in coordinating the plans, recruiting and training volunteers to do the supervising of youth, and interpret the program to the community. Other agencies directly involved will be the health and welfare agencies, whose function will be to safeguard the health of young workers; youth-serving and youth organizations and churches; parents and citizen groups; and the schools.

A considerable part of the program is assigned to the schools.

[4] Obtainable from the Office of Defense, Health and Welfare Services, Washington, D. C. Market lists for moderate-cost and liberal meals, suggesting kinds and qualities of food for a week for boys and girls of different ages, are available from the Bureau of Home Economics, Department of Agriculture, Washington, D. C.

The functions of the school in this program of employment of non-farm youth in agriculture are outlined as follows by the Children's Bureau, the Office of Education, and the other agencies cooperating in the preparation of the bulletin:

Registration and selection of youth.
Orientation of youth toward understanding—
(a) The importance of the program to the war effort.
(b) Rural community life.
(c) The conditions under which they will work.
Preemployment and on-the-job training in the tasks and skills required on the local farms.
Assistance in giving physical examinations when other provision is not made.
Assistance in providing supervision of youth as part of a total plan.
Interpretation of the program to parents.

The point of view of the Federal officers who prepared the bulletin is summed up in a final word by Katherine F. Lenroot, Chief of the Children's Bureau:

"Older boys and girls are being asked to give generously of their spirit and energy in our common effort to produce and harvest the Nation's food. Let us not use their labor wastefully. Let us see that their contribution is made in ways consistent with their health and welfare and with the fullest use and development of their capacities."

Notes

"Your Money" is an unusually attractive illustrated brochure published by the Federal Reserve Bank of Minneapolis. It discusses "What is money," "How does money get around," "How do you get your money," "Where does new currency come from," "Where does old currency go?" and a number of other subjects interesting to all of us and especially useful in a high-school social studies course.

Publication No. 235 of the North Carolina State Department of Public Instruction ("A Suggested Twelve-Year Program for the North Carolina Public Schools") is now out in printed form; it is a document that will prove practically useful in many other states besides North Carolina.

On March first the new series of dramatic radio transcriptions, "Lest We Forget—Eternal Vigilance is the Price of Liberty," became available for radio broadcast and use in schools. A handbook on the series, containing additional material for teachers, may be obtained by writing to the Institute of Oral and Visual Education, 101 Park Avenue, New York City.

Robert Frost's "Mending Wall": A Lesson in Human Understanding

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AND

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MUCH HAS BEEN said about teaching the ways of democracy as a part of our war effort and of the peace effort that is to follow. Educators the country over have discussed the obligations of the English teacher in helping with the realization of this task. Contemporary American literature is rich in materials for the achievement of this end. We believe that it is important for teachers of English to share with one another their ways of demonstrating democracy in action. The sketch that is to follow is an attempt to share with other teachers of English one way of using a poem by Robert Frost as a lesson in human understanding and democratic behavior. The poem chosen is "Mending Wall." The analysis that follows suggests the emphases made by the pupils and teacher in classroom discussion.

"Mending Wall" suggests a commonplace springtime task in New England, where low stone walls are the usual boundaries between property. Two country neighbors move along either side of a wall, repairing the destruction of the winter. The two farmers are very different in their approach to life. One is practical, conventional, and rather unimaginative. He is repairing the wall because he thinks that is the thing to do in the spring; his father and grandfather repaired walls every year in the spring, and he should continue without asking what he is walling in or walling out—or why he is building a wall at all. The other farmer is a fanciful fellow with a questioning mind and a friendly spirit. He approaches his job as if it had never been done before. The New England convention of repairing walls in spring is not very important to him. He is a trusting man and rather unconventional. He sees no reason for barriers where no barriers are needed. He knows that his apple trees will never get across and eat up his neighbor's pine cones. He

[1] "We wrote this in the hope of trying to do a little thing, but something practical, about our great contemporary challenge as English teachers, teaching the ways of democracy through our own literature. Here we have chosen a poem, Robert Frost's 'Mending Wall,' which is included in many anthologies and is available to most English teachers. We think it is important to begin with what teachers have, and give it as broad and as useful a meaning as possible.

"Last week, Elizabeth Rose and I, each working in separate schools (she at Birch-Wathen, and I at Lincoln), discussed this poem with our high-school classes. The youngsters in both schools brought so much into the discussion that we thought a short article on the poem might be helpful to other teachers." (Note to the Editor from Mrs. Davis).

has a sense of trust that makes material walls unnecessary. Before he builds a wall, he'd "ask to know" what he "was walling in or walling out" and to whom he "was like to give offense." But the more conventional man has no such peace of mind, no such questioning spirit. He will not go beyond his father's saying, and he likes having thought of it so well, he says again, "Good fences make good neighbors."

This is the surface meaning of the poem; but if we look for something in broader scope, we know that the poem illustrates two points of view about life and human relationships. There are two kinds of walls between people. The imaginative and trusting neighbor is not without walls, but his are the spiritual walls of mutual self-respect. The cautious man, on the other hand, feels the need for real barriers, stone walls and doors that may be locked with keys. We all need to protect ourselves from intrusion by the use of certain spiritual walls which keep intact our quality of living, our philosophy of life. These walls within our own spirit are the fanciful walls that make us strong people; they are the best assurance of our own privacy; they encourage within us a decent respect for the privacy of other persons. These are the walls that keep a student from looking on another's paper during an examination. They are the walls that keep people honest and decent. These spiritual walls form the basis of a student's moral sense. Without them, no teacher, however watchful, can do very much about the problem of cheating.

Sometimes people, like the cautious and conventional man in Robert Frost's poem, build unnecessary walls about themselves as well as about their property—walls that act as barriers between themselves and other people. These are the walls of needless estrangement; these are the walls that make men bitter, ingrown, and lonely—and, more often than not, for no reason at all. These are the walls that can separate people who should be near and dear to each other.

Last spring we visited a beautiful old ante-bellum home in the deep South. A long avenue of oaks led up to the place, white and shady and mellowed behind its red japonica bushes. For a small fee we were allowed to enter the doors of the mansion and admire the warm mahogany and walnut and the beautifully gleaming silver and crystal that the old home contained. Two elderly sisters, the last of a fine old Southern family, kept the place and managed to live meagerly on the small subsistence they got from the people who came to see their lovely antiques. We were escorted through the gracious rooms and up the old winding staircase by Miss Maria, who carried hanging from her belt a gigantic, intricately-wrought old iron key. The doors of all the rooms were flung wide for us—all except one, which was securely locked. As Miss Maria approached

the closed, white-paneled door of this particular room, she stopped a moment, looked rather embarrassed, then turned to us and confided, "This is my room. I have to keep the door locked. My sister snoops."

Now Miss Maria and Miss Lou had known what it was to have pride of family, genuine aristocracy, grace in social living. But in their adversity and old age, they did not know the pride that comes with happy daily living. And Miss Maria was unable to conceal from the world an unhappy and distrustful relationship between herself and her sister. The beautiful old iron key was only a symbol. We saw a lifetime of iron keys hanging from Miss Maria's belt, symbols of something in human relationships that cause misunderstanding and locked doors. Sometimes we can abuse spiritual walls and force people to protect themselves by hanging great keys from their belts.

The needlessly cautious person often builds walls to protect himself from the unfamiliar and the unknown. He likes only the ways he has traveled before, only the signposts that are familiar and thoroughly understood. Last summer two little girls came from their farm in Iowa to visit in New York. Alice was twelve, and Dorothy was ten. This was their first trip to a great city; so we contrived to give them the most exciting visit possible. Because they had never eaten foreign foods before, we took them to a Swedish restaurant for lunch one day, and we watched them as they walked around the lavish table of smorgasbord. Alice emerged with all the new and different foods that she could discover, exotic meats, strange kinds of raw fish, and unfamiliar pastes. But not Dorothy. She had chosen only those things that she had eaten at home, ham and potato salad, stuffed eggs and pickles. She had refused the unknown, the unfamiliar.

Just as we can erect needless barriers between ourselves and those who are near to us, between ourselves and experiences that are unfamiliar, so also can we be intolerant of ideas, beliefs, and ways of living that are not our own. Wordsworth, another poet with a gentle spirit toward mankind and a sort of spiritual father to Robert Frost, called this kind of wall "man's inhumanity to man." The true democrat is as gentle as these poets in his respect for another person, his rights, his property, his race, his beliefs.

At the close of the First World War, we refused to join the League of Nations. We thought we could live alone; we built around us a great national wall and fortified it with tariff barriers that brought only greater and greater estrangement from other nations. That was in 1919. Now, in this year 1943, when President Roosevelt can travel to North Africa and back in so short a time that we do not hear of it until after his return, there is no such

thing as intelligent isolation. Global war has made our world a smaller place. If we win the peace as well as the war, there can be no locked doors, no stone walls between ourselves and our Allies. We must learn the ways of intelligent cooperation with other peoples who share our dreams of security and a better life. We must encourage understanding among peoples and find ways of working together. "Something there is that doesn't love a wall, that wants it down."

Horace Mann and the Prussian Schools[1]

The popular traveller, Laing, has devoted several chapters of his large work on Prussia to the disparagement of its school system. An octavo volume, entitled "The Age of Great Cities," has recently appeared in England, in which that system is strongly condemned; and during the pendency of the famous "Factories' Bill" before the British House of Commons, in 1843, numerous Tracts were issued from the English press, not merely calling in question, but strongly denouncing, the whole plan of education in Prussia, as being not only designed to produce, but as actually producing, a spirit of blind acquiescence to arbitrary power, in things spiritual as well as temporal—as being, in fine, a system of education adapted to enslave, and not to enfranchise, the human mind.

But allowing all these charges against the Prussian system to be true, there were still two reasons why I was not deterred from examining it.

In the first place, the evils imputed to it were easily and naturally separable from the good which it was not denied to possess. If the Prussian schoolmaster has better methods of teaching reading, writing, grammar, geography, arithmetic, etc., so that, in half the time, he produces greater and better results, surely we may copy his modes of teaching these elements, without adopting his notions of passive obedience to government, or of blind adherence to the articles of a church.

In the second place, if Prussia can pervert the benign influences of education to the support of arbitrary power, we surely can employ them for the support and perpetuation of republican institutions. A national spirit of liberty can be cultivated more easily than a national spirit of bondage; and if it may be made one of the great prerogatives of education to perform the unnatural and unholy work of making slaves, then surely it must be one of the noblest instrumentalities for rearing a nation of freemen.

[1] Here quoted from *Report of an Educational Tour in Germany, France, Holland, and Parts of Great Britain and Ireland.* Being part of the 7th annual report of Horace Mann, Esq. With Preface and Notes by W. B. Hodson, LL.D. 4th ed. London, Simpkin, Marshall & Co. 1857.

Essential Steps in a Nation-Wide Program for Meeting the Teacher Shortage

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THOSE who are seriously concerned with the general welfare of the nation in the present crisis and afterward, have become genuinely alarmed at the growing shortage of teachers and its implications. Such considerations as the following have contributed to the critical situation:

1. Superintendents of schools report that hundreds of teachers are leaving the profession to enter the armed forces or to take jobs in business and industry at higher salaries.
2. Reports of fall enrollments in teacher education institutions in 1942 showed a decrease of 21.4 per cent.
3. It has been estimated that there will be a shortage of 50,000 teachers at the beginning of the school year 1943-1944.
4. It is reported that 40,000 schools (mostly rural) did not open for the 1942-43 school year.
5. In the spring of 1942 one state department of education discovered that there were over 1500 probable vacancies in the state and less than 900 qualified persons being graduated from teacher training institutions in that state.
6. Especially acute teacher shortages have developed in the fields of industrial arts, vocational agriculture, home economics, science, mathematics, commercial subjects, and instrumental music. These represent important areas not only for the war emergency but for our post-war development as well.
7. An immediate and entirely new demand for teachers has been created by the recently developed program for child care which reportedly seeks 200,000 nursery school teachers before July 1, 1943.
8. Rapidly rising birth rates will soon be reflected in a sharp increase in enrollment in the lower grades of the elementary school.
9. Leadership in the long-time program of reconstruction can come only from an educated citizenry. Therefore, not only must elementary, secondary, and higher education be maintained as completely as possible but a greatly expanded adult education program must be created.

THE PLAN

Because these problems are nation-wide in scope, they can be met only by a national program. Such a program might well include the following essential steps:

1. State-wide surveys to be conducted by state departments of public instruction in order to reveal the number and types of positions likely to be open at the beginning of the 1943-1944 school year.
2. Registration through local schools of all persons not now teaching but qualified to teach or able to qualify with three months of carefully planned full-time training.
3. Special summer programs by all types of teacher education institutions to meet the needs of persons requiring "refresher" courses and additional academic and professional training.
4. Teacher placement services, both institutional and governmental, to register and make available to employing officials on a non-commission basis the teachers thus qualified for employment.
5. Financial assistance to individuals on a basis similar to the present NYA Student Aid Fund, to be administered by some such organization as the present NYA and to employ similar procedures of allocating funds in order to insure the needed supply of teachers and the fullest utilization of training opportunities.
6. If financial assistance to local communities is needed to provide teachers in shortage fields, federal grants should be made available to those school districts which are unable to keep or employ teachers because of inadequate resources with which to pay satisfactory salaries.

EXPLANATION AND IMPLEMENTATION

State survey of anticipated vacancies. State departments of education have field representatives and require regular reports from local school districts. Therefore the machinery is already available for making a survey of the number and types of positions likely to be open at the beginning of the 1943-44 school year. Some state departments have already conducted such a survey. The data, when gathered, will provide fairly accurate information by level and subject as to teaching positions likely to be open. This information can be supplied to higher educational institutions interested in training teachers for that state. Reports from all state departments to the U. S. Office of Education would give a national picture of teacher needs in this country.

National registration of teachers. It is well known that thousands of successful teachers leave the profession each year. In time of peace this high rate of turnover has been a serious handicap to the profession. In the present crisis this fact may prove a temporary blessing if those teachers who have left the class-room can be induced to re-enter the profession and be retrained for teaching responsibilities.

Machinery has already been established for registration purposes (selective service, sugar, gasoline, etc.), in public schools. It is proposed that a special week be set aside for a nation-wide registration of teachers. There should be special press and radio publicity regarding the need for teachers and the legal and professional requirements in each state. The registration data thus secured should be sent to each state department of public instruction for analysis and collation.

Special teacher education programs. On the basis of the state surveys of anticipated vacancies and of the teacher registration data, state departments of education can provide teacher training institutions with the facts regarding vacancies and types of special training needed. Higher educational institutions can then develop special training programs utilizing their institutional resources and faculty. During the present year many of these programs will have to be conducted during the summer. Again, no new machinery need be created since colleges and universities have normally conducted summer programs for teachers. During the 1943-44 school year extension centers, workshops, and other teacher training programs can be sponsored in local communities by teacher education institutions. Because of rapid changes in educational practices it is recommended that persons who have not taught within the past five years should take some type of refresher training.

Teacher placement. During the time of their special training these teachers can assemble placement credentials with the teacher placement office in the institution in which they are enrolled. Such teacher placement services have already developed close relationship with employing officials in the areas served by the institution and superintendents are accustomed to come to these bureaus to interview candidates. Thus, through an already established agency contact can be made, on a non-commission basis, between the teacher and the employer. In certain geographical areas where there may be an oversupply or undersupply the clearance facilities of the National Institutional Teacher Placement Association and the United States Employment Service can be utilized.

Financial assistance to individuals seeking teacher training. It may be possible that critical teacher shortages can be met without financial assistance to individuals. It is well known, however, that most individuals can obtain positions in business or industry at higher salaries without any outlay for initial training. No exact determination of financial need can be made until the results of the survey of anticipated vacancies and the registration of teachers are known. However, if it should develop that teachers cannot be induced to re-enter the profession and obtain re-training without financial assistance, it is proposed that a plan similar to the present NYA Student Aid Fund be utilized. Again, machinery has already been established and principles of operation determined which would need only slight modification to serve the purposes herein contemplated.

Financial assistance to local school districts. The prime purpose of this proposal is to secure adequate supply of competent teachers for children and youth. Unless local communities can keep or employ such teachers the desired outcome cannot be realized. It is well known that many local school districts, after extending themselves to the limit of their resources, do not have the funds to attract and hold the type of teacher needed. During the present year the pirating of teachers by larger and more financially able school districts from smaller and poorer districts has created very serious problems. Undoubtedly some form of federal aid to certain local school districts is necessary especially in fields made critical by the demands of industry and the war effort. In many states local communities are now receiving aid through federal and state distributive funds. These funds can be augmented by federal appropriations. Machinery for the distribution of both state and federal grants-in-aid to local school districts is already in operation and can easily be utilized.

It should be emphasized that this proposal is only an emergency measure and does not attempt to solve many of the more serious problems of teacher education. Therefore, there should be no reduction of our effort to recruit from high schools and colleges promising young men and women to be encouraged to enter the profession and to receive special training as teachers. Nor does this plan offer any permanent solution to the inequalities in educational opportunities offered young people in various parts of the country due to disparities in the wealth of local school districts.

How Shall We Adjust High-School Science to the War Effort?

Letter from a University Professor to a Supervisor of Instruction

DEAR MR. SUPERVISOR:

Since our recent meeting with the science and mathematics teachers of your county, I have looked further into adjusting high-school science to the war effort, in the attempt to get together helpful material to send to you as promised. The investigation has led me to examine rather carefully both the Victory Corps program and the special pre-induction program, so far as courses in the latter have come as yet to hand.

It has helped me in my thinking, and it may similarly help that of your teachers, to review some of the statements in various government bulletins dealing with the schools at war.

VICTORY CORPS

Both the Victory Corps and the pre-induction programs are so planned as to adjust readily to the capacities of schools of various sizes and strengths. The Victory Corps has a *general* membership requirement based on only three factors:

1. Participation in a physical health program.

2. Study of subjects appropriate to age, grade, ability, and probable future usefulness in the war effort.

3. Participation in some recurring or continuous service activity, normally within the local community.

It is specifically stated that the nature and number of *special services* which can be represented in any school varies. "Unless it is possible to meet fairly definite criteria such as those enumerated for the special service divisions of the Victory Corps, there should probably be no attempt in a particular school to set up special service divisions. Justification of special service divisions is simply that these . . . do imply concentration in the students' program of studies as related to the war effort." It is further suggested that though not every school can provide specialized courses, as radio or shop practice, some might be able to extend curricula in terms of part-time diversified occupational training. Or unused facilities (garage, blacksmith shop, for example) might be rented by a school and used for group instruction under a skilled leader. It is thought to be better in such cases to use some competent layman for the service

than to take regular teachers from their jobs or to add thus to their load.

Those schools that are better equipped can add whatever special service divisions can be properly cared for. Here, in addition to the physical fitness and service programs required, special electives must be chosen from particular lists of courses. In the land, sea, and air services the tendency is to make these electives conform somewhat specifically to pre-induction type courses; in production and community service divisions this is less true and the range of choice seems greater.

In addition to the fixed program a rather wide list of clubs is named in which volunteer work can be done that is in line with Victory Corps service. Some of these clubs, happily, look toward social betterment and international friendships, but the majority seem more closely connected with the natural sciences in one way or another. Whether your schools, considered separately, will attempt to carry on any of these will depend, I should think, on interests of local groups and on the presence of capable and enthusiastic leadership on the part of some teacher, student, or interested citizen. I do not believe in greenhouse forcing for clubs; their growth is then too tender and evanescent, as a rule.

PRE-INDUCTION COURSES

I note that in the pre-induction program training at three levels is planned—the *foundation* level, the level of *beginning specialization,* and the level of gaining *operational skills.* Except for those anticipating early induction, the foundational level courses are looked upon as prerequisite to the others. Careful study reveals that "clear understandings are essential for the development of the needed skills; without such understandings, development of the skills is difficult and sometimes impossible."

I am pretty well persuaded that with very few exceptions the courses offered by regular teachers in most Southern high schools will be at the foundation level. Such evening courses involving specialization as are offered will probably be conducted by instructors "drafted" from industry involved or else from among those who have made the subject a hobby, as many have done with radio. So far as regular teachers are concerned, we can confine our thought largely to this foundation level only.

Courses at this level are listed as (a) general, *war-applied* (italics mine) courses in mathematics and physics, and (b) more specific fundamental courses (to contribute to the flow of manpower in areas of critical shortages). Outlines for three such specific courses—

electricity, machines, shopwork (PIT 101, 102, 103)—have already appeared. You may have noticed in one bulletin the statement that probably some 20 percent of the nation's secondary schools could go no farther than redirect their mathematics and physics courses; the rest might do somewhat more. (Special technical or vocational high schools could indeed do a great deal more, and on higher levels, but they are practically non-existent here.)

SCIENCE AND PRE-INDUCTION COURSES

Examination of outlines PIT 101 and 102 (electricity and machines respectively) discloses that not much of greater difficulty is required in those courses than is contained in shorter form in an up-to-date physics course. The chief difference would seem to be that what there is necessarily condensed into a unit lasting only one or two months is here expanded into a semester's work in order to insure greater detail and greater thoroughness in understanding. Some little extra equipment might be needed, especially for the work with electricity, but not a prohibitive amount. Given at eleventh- or twelfth-grade level, the main problem would seem to be less that of securing equipment or of enrolling students of sufficient ability than that of finding an inspiring teacher, well prepared as to subject knowledge and able to sell the study to his classes on the ground of its usefulness. In doing this the outlines, unfortunately, give little help, first because they are mere outlines and secondly because they follow rather closely the traditional, academic presentation. I see in them little of motivation other than the suggested imminence of actual induction into the armed services upon their completion.

Thus at the foundation level, whether in reorganized physics courses or in special courses, it seems to me that the main problem is one of finding an approach in teaching that will appeal to students and hold them to their work. (Some teachers may be able to gain this end through sheer driving or the fear of penalties to come, and others may succeed through the good old exhortation method coupled with the influence of their own personalities; but these means are not within the power of all to exercise.) As a matter of fact these bulletins list as references many of the usual high-school physics texts and call for the same sort of high-school apparatus for demonstration and experiment. For that reason it seems to me that the main point of attack for teachers who wish to impose their work should be to *examine war activities, both combative and industrial, for centers of interest around which to group the study and for multitudinous concrete illustrations where the basic prin-*

ciples taught are applied. Acceleration and the laws of falling bodies, for example, become much more vivid when viewed in relation to a falling bomb than when studied in the abstract; a good teacher can make clear to his class how it is that certain properties of some one metal or other substance have made it almost irreplaceable for a particular type of use, and have been responsible for salvage drives that will help in recovering it for use a second time, or many times. Young people always want to know *why* it is worth while to go to all the trouble of this study; I believe we need to keep ourselves in position to answer, or even to anticipate that want, through stressing the practicality of our work at every possible point. So if I were to examine new books and materials, I should look for helps along that line especially, in order to work them into my teaching.

SCIENCE AND WIDER WAR EFFORT

Although the war is well under way, the majority of citizens are not, and presumably will never be, in the armed services. Yet everyone is or should be a war worker. In activity behind the lines science has an important part, whether it be in the factory, on the farm, in the home, or in community services. Science courses can at some points be even specific enough to be almost of the pre-induction variety, as in agriculture, home nursing, first aid, nutrition, and the like. Many of these can and will be offered in secondary schools, at least as extras. Yet here again we can probably best think in terms of a foundational level, and within such present course set-ups as chemistry, biology, general science, geography, and physics.

Here again most of the needed material can be found already close at hand, and the problem is one of finding a practical or functional approach that will give life to the study. Every area of science has connected with it appropriate practical problems around which can be centered study and work of immediate local interest and value. How can we keep up, and even build up, crop production on our already impoverished soils, to meet the pressing demands for more food for ourselves and our allies, and later for all the world? How can we best care for our woodlands so that our timber and fuel supply will be kept up to the proper point? How can we act together to prevent local erosion or solve local problems of soil denudation and floods? How buy goods to advantage in times of shortages and high prices? How keep up the family health through a better planning of diet? How care for the sick at home, now that so many doctors and nurses are being called away? How produce, process, and preserve additional foods at home, to make up for

shortages in similar foods brought in from outside? How keep home appliances in good repair, now that these cannot be easily replaced? How guard more carefully against infectious diseases in war time? How best understand and follow the war news as it reaches us, dealing as it does with distances and places quite unfamiliar to us earlier? What information can science give us on possible solutions of such shortage problems as those of rubber, sugar, coffee, gasoline, and on the need for saving such things as fats, silk and nylon hosiery, phonograph records, or keys? How far have substitutes for strategic materials already been found or manufactured? What are the possibilities of finding new sources of supply for some of them? More locally, how have some of these problems affected industries in our own state? (Considerable mention of developments in mining, peanut raising, and soy bean production in North Carolina is being made now from time to time in the daily and Sunday papers. What is their significance?) These and countless other practical questions afford opportunities for interesting approaches to a type of science study which is purposeful and vivid rather than artificial, theoretical, and seemingly remote from immediate usefulness. Yet through such study the essential principles are necessarily introduced and seen in application.

You asked for a bibliography. It will necessarily have to be very incomplete both in headings selected for treatment and in books listed. I make no pretense of having examined all the books, but rather have set down titles as I have run across them. Such comments as do appear have been in part those found in advertising or in short reviews, together with a few of my own where I have known the book. Some references may be wholly lacking in value, but most of them should yield help in one way or another, I think. I shall be very glad to learn which ones you would select out of those examined by your teachers, as most valuable aids.

We may expect further publication of texts for pre-induction courses, since every textbook publisher will wish to be represented in this general field. The World Book Company, for example, is advertising a set of texts soon to be ready, to meet the requirements of the pre-induction outlines.

Carleton E. Preston.

University of North Carolina.
January, 1943.

A PARTIAL BIBLIOGRAPHY

In this partial bibliography of available material, no attempt is made to list the more traditional type of high-school textbooks in science or magazines on science usually sold on news-stands. Nor has it been possible to canvass the whole field of science publications in any of the various areas represented. Some of the references cited contain lists by means of which a wider bibliography can be built if desired.

GENERAL

Science News Letter. Science Service, Washington, D. C. Weekly.

Good to keep students and teachers in touch with current scientific developments generally.

Current Science. Educational Publishing Company, Columbus, Ohio. Weekly during school year. $.55 per year in group rates.

Intended for class use. One general and other unit issues monthly. Many of the units are related to war activities.

The Chemistry Leaflet. Ellen H. Richards Institute, State College, Pa. $2.00 per year. Monthly during school year.

Includes sections on other sciences as well as chemistry. "Interprets the work of the research laboratory for the teacher and student of science." "Begins where the textbook leaves off" in enriching science study.

Science In War. A series of popular science lectures. Philadelphia College of Pharmacy and Science. Philadelphia, Pa. 97 pp. $1.00.

Interprets current developments in various fields of science. Titles of lectures are: Physics in the War. Health and the War. Life-saving Medicines. Bacteria and the War. Conservation. Signals and Detectors. Chemistry and the War.

Job Training for Victory. (Revised to February, 1942.) U. S. Office of Education.

Get from Superintendent of Documents, Government Printing Office, Washington, D. C.

What the Schools Should Teach in Wartime. Educational Policies Commission. Washington, D. C.

Includes special recommendations for mathematics and science.

Education for Victory. U. S. Office of Education. Biweekly. $1.00.

Important source of information as to Victory Corps and school activities in wartime.

Catalog of Titles of currently available loan packets, including those under the following heads of interest in science study:

Conservation of Natural Resources.
Wartime Health Problems and Programs.
Nursing as a Career in War and Peace.
Nutrition and the Nation's Welfare.
The Consumer in Wartime.
Victory Gardens.
Aviation Education.

Packets sent under frank both ways, loan period two weeks. Write: Information Exchange, U. S. Office of Education, Federal Security Agency, Washington, D. C.

Ogburn and Weaver, *Man and His Machines:* Teaching American Youth How Invention Changes the Modern World. A resource unit for teachers.

National Association of Secondary School Principals, 1201 16th St. N. W., Washington, D. C. One of a series of units on Problems of American Life. 1-3 units, 30 cents each, lower rates in quantity. Teacher's manual 10 cents; one free with four or more units.

Pamphlets of General Motors Corporation. (Address Department of Public Relations, General Motors Corporation, Detroit, Mich.)

These are excellently written and illustrated and have in the past been distributed to schools free. Some may still be available. Some of the titles are: Chemistry and Wheels, Metallurgy and Wheels, Diesel Engines.

Boy Scouts of America. *Merit Badge Pamphlets.*

Several of these contain material valuable to the war effort, as Aerodynamics, Aeronautics, Agriculture, Airplane Structure, Chemistry, Photography, First Aid, Signalling.

Progressive Education, October, 1942. *Education's Role in War and in Reconstruction.*

Very helpful. Outlines a suggested program, with the following framework. General references and references by areas within this framework are given, for further study.

Group I, areas dealing with meeting the needs of individuals and community: Child Welfare, Nutrition, Health and Physical Fitness, Housing, Recreation and Fellowship, Family Life, Consumer Education, Youth, The Community.

Group II, areas dealing with understanding democracy. (Less concerned with science than with social studies.)

Group III, areas dealing with national and regional planning in the total war effort: Food Production, Conservation of Resources, National Emergency Programs (salvaging and rationing, tax and price controls, new agencies), National Organizations (Red Cross, U. S. O.)

Throughout, emphasis is laid upon the school working as a part of, rather than apart from, the community.

Preston, *Teaching High-School Science in Wartime.* THE HIGH SCHOOL JOURNAL, Nov.-Dec., 1942. pp. 297-302.

Logan. *The Home Front Digest.* Howell Soskin, New York.

Chapters are on: Air Raids, First Aid, Keeping Healthy, Victory Garden, Recreation, The War and Your Job, How to Live on Your Income, Making Your Possessions Last, Protecting Your Mind, The Home Front Army.

Engelhardt. *Education for the Air Age.* Macmillan, 1942. 55 pp. $.24.

A thought-provoking guidebook for teachers generally, but particularly those of the sciences and social studies.

AVIATION

U. S. Office of Education Leaflets:

No. 62, *Pre-aviation Cadet Training in High Schools.*
Describes requirements for aviation cadet training.

No. 63, *Pre-flight Aeronautics in Secondary Schools.*
More detailed discussion than in Leaflet 62 of content of aeronautics courses and methods of organizing.

Victory Corps Aeronautics Aptitude Test. With manual, answer sheets, score sheets, and report forms. (Now ready or in preparation.)

These are obtainable through the Superintendent of Documents, Government Printing Office.

Pope-Otis. *Elements of Aeronautics.* World Book Co. $1.73.

Technical and theoretical enough to give the impression that it could best be used in combination with actual training in the plane.

Robinson and others. *Before You Fly.* Essentials of Aeronautics. Heath. $2.00.

A simple presentation, more suited than some others to high-school use. Developed in pre-flight courses in District of Columbia high schools. Has an excellent bibliography of aviation reading.

Hamburg-Tweney. *The American Student Flyer.* (Pre-flight training for high schools.) 700 pp. $1.50. Pitman Publishing Corporation.

Comprehensive, as its size indicates. Rather advanced for high school.

Elements of Pre-flight Aeronautics.
Science of Pre-flight Aeronautics.

Aviation Education Research Group, Columbia University.

Both published by Macmillan. Both have workbooks available for use with them. Of the two, both of which are general textbooks, the former is the briefer and simpler. Both are intended for high schools, but the latter, 868 pages long and correspondingly advanced, probably can be used to advantage only by those more able in mathematics and the sciences.

Siemens. *Aeronautics Workbook.* Ginn. $.75.

For use with the pre-flight course outlined in U. S. Office of Education Leaflet No. 63, listed above. Rather advanced as a whole.

Wilber-Neuhardt. *Aeronautics in the Industrial Arts Program.*

Handbook for students and teachers. Macmillan. 252 pp. $.92.

Manzer-Peake-Leps. *Physical Science for the Air Age.* A Teachers' Guide. Macmillan. 198 pp. $.80.

Jordanoff. *Your Wings.* Funk & Wagnalls. 1940. 282 pp.

A book on the techniques of flying.

Jordanoff. *Safety in Flight.* Funk & Wagnalls. 1941. 371 pp.

Deals with the special problem indicated in title, in some depth of detail.

Norcross-Quinn. *The Aviation Mechanic.* 557 pp. Whittlesey. 1941.

Arey. *Elementary School Science for the Air Age.* Macmillan. 1942.

Practical introduction to aviation study. Not confined in value to elementary schools, where its use would be limited to upper grades.

Allen-Lyman. *The Wonderland of the Air. Winston.* 1936.

General, not war-adapted, but contains some chapters on military aviation, engines, instruments, principles of flight, gliders, dirigibles, etc.

McDonald. *Youth Must Fly.* 221 pp. Harper. 1942.

Gliding and Soaring.

Floherty, *Aviation from Shop to Sky.* Lippincott.

Fitzpatrick-Stiles. *The Biology of Flight.* Macmillan.

Human factors and reactions in flying. Teachers' manual available.

Cross. *Wings for You.* (Anthology.) Macmillan. (Air Age Educational Series.) (Senior High.)

Cohen. *Flying High.* (Anthology.) Macmillan. (Air Age Educational Series.) (Junior High.)
Both for use in English classes.

Gann. *Sky Roads.* Crowell. 1940.

Zim. *Parachutes.* Harcourt. 252 pp. 1942.

Williams. *Keep 'Em Flying.* Row Peterson. 64 pp.
Life of an aviation mechanic. Story form.

Keliher, ed. *Air Workers Today.* Harper. 1942. 56 pp.
Mainly illustrations. Brief account of various crews of workers.

Munday. *Captains of the Sky;* the Way of Life of a Military Aviator. Row Peterson. 1942. 64 pp.
Fine illustrations.

Barrett. *Words About Wings.* Denver (Colo.) Public Library. 1942. 15 cents, less in quantity lots.

Heimers. *Flying and Weather.* Audio-visual teaching aids. 1942. New Jersey State Teachers College. 23 pp. $.50 mimeographed.

Jam Handy Slide-film Kit (Aviation). Pictures with textual material arranged in logical sequence in 35 mm. films, for use with ordinary filmslide projector (presumably not a part of the kit). Various films in the following aviation areas: human factors in flight, air navigation, communications, meteorology, engines, aerodynamics, theory of airplane structure. 24 slidefilms, containing 1,742 individual pictures. Whole kit and case, $65.00. Individual films, $3.50. The Jam Handy Organization, 1775 Broadway, N. Y.

Ott. *Aircraft Spotter.* Harcourt-Brace. 1941. 64 pp. $1.00.

Current Science for Jan. 11-15, 1943 contains a classified list of "Newest Books About Flying," the editor's selection as "best buys" for the school library.

(METEOROLOGY)

Spitz. *A Start in Meteorology.* Henley. 95 pp. $1.50.

Finch and others. *Elementary Meteorology.* McGraw-Hill. 301 pp. $1.76.
Designed for secondary-school students. Two chapters apply principles to aviation.

Humphreys. *Ways of the Weather.* Cattell. $4.00.
Highly recommended in Science News Letter.

Gaer. *Fair and Warmer.* Harcourt-Brace. 1939. 137 pp. $1.00.

Baer. *Rain or Shine.* Farrar-Rinehardt. 1940. 292 pp.

Vetter. *Visibility Unlimited.* Morrow. 352 pp. illustr.

Renner-Bauer. *The Air We Live In.* Macmillan. 1942. 43 pp. $.36.

GEOGRAPHY

Bauer. *Globes, Maps, and Skyways.* Macmillan. 1942. 75 pp. $.40.

Peattie. *How To Read Military Maps.* Geo. W. Stewart. $1.50.

Renner. *Human Geography in the Air Age.* Macmillan. 1942. 238 pp. $.64.

Studies in geography of different peoples and countries lies more properly in the social science field. Of greatest concern from the functional science standpoint are those aspects which deal with the reading and making of maps, with navigation, and with the new concept of global geography consequent upon man's ability to use direct air routes.

One of the best sources of help here is in the numerous articles and maps appearing in the better current magazines and in the daily press; a second source is material, especially maps, published by the National Geographic Society. Special consideration needs to be given to maps on projections which least distort distances, particularly in polar regions. A good globe of large size is an increasingly important help.

MATHEMATICS

Betz. *Basic Mathematics.* Ginn. $1.11 net.

Osteyee. *Mathematics in Aviation.* Macmillan. 186 pp. $.64.

Buchan, Borthwaite, Wadden. *Aviation Mathematics.* Houghton-Mifflin.
"A 'refresher' mathematics—strictly on high school level."

Ruch, Knight, Studebaker. *Arithmetic for the Emergency.* Scott-Foresman.
Advertised as a high-school "brush up" course. "Covers thoroughly the fundamentals of arithmetic, algebra, and all essential geometry and trigonometry."

Gager, Stone. *Mathematics Essentials for the War Effort.* 395 pp. Paper bound. $.75.
"Primarily for seniors in high school who have not been majoring in mathematics. Arithmetic, approximately 35%, algebra 25%, plane geometry 20%, trigonometry 20%.—An outstanding feature is the abundance of practical problems most of which bear directly on the present needs of the army, navy, air corps, or war industry."

——— *Professional Background Materials for War Mathematics.* 80 pp. Paperbound. $.50.
For teachers using the above text. Organized with special emphasis on elementary operations, map projections and map problems, vectors and vector problems, and navigation. Address: Ted Calhoun, Division of Administration and Finance, State Dept. of Education, Tallahassee, Fla.

Downer. *Practical Mathematics of Aviation.* Rev. 1942. 124 pp. Pitman Publ. Corpn., 2 W. 45th St., New York City. $1.00.

Hooper. *A Mathematical Refresher.* (American edition). Holt. $1.90.
Originally designed for use in R. A. F. training.

Hart. *Basic Mathematics.* Heath. $1.52.
Through trigonometry and logarithms. Practical problems and methods of computation are stressed.

Keal and Leonard. *Essential Mathematics for Skilled Workers.* Wiley. 293 pp. $1.50.
"Review arithmetic, algebra, geometry, trigonometry, slide rule, and applied technical problems."

Bradley. *Mathematics of Air and Marine Navigation.* American Book Co. 103 pp. and tables. $1.00.
"Mathematics of immediate practical value to the man who is trying to find his way around this globe."

(Comments on these mathematics books are all taken from reviews or advertising material.)

HEALTH AND SAFETY

Clemensen-LaPorte. *Your Health and Safety.* Harcourt-Brace. 1942. 587 pp. $1.96.

Bannerman-Braun. *Safety Through Education.* Wausau, Wis. Employers' Mutual Liability Insurance Co. 1942. 124 pp.

"Watch." Quarterly magazine of American Mutual Liability Insurance Co. Boston, Mass. (Pictorial).

Hill. *Silent Enemies;* the Story of War Diseases and Their Control. Putnam. $2.50.

Darnell-Cooper. *What the Citizen Should Know about Wartime Medicine.* Norton. 237 pp. $2.50.
Describes the army and navy medical services at work.

Eliason. *First Aid in Emergencies.* 11th edition, 1941. Lippincott.

American Red Cross. *First Aid* (textbook).

Wenger-Sense, *First Aid Primer.* Barrows. 1942.

American Red Cross. *Home Nursing and Care of the Sick.*

Home Nursing Courses in High Schools. The "Flag" series of National Defense pamphlets, No. 9. Superintendent of Documents, Washington, D. C.

Norlin-Donaldson. *Everyday Nursing for the Everyday Home.* Macmillan. 1942. 306 pp.

Lippitt. *Hygiene of Home Nursing.* World Book Co. 1940.

Robertson and others. *What Do We Eat Now?* Lippincott. 1942.
Stresses wartime food problems, and ways of meeting them.

Food for Thought; the School's Responsibility in Nutrition Education. "The Flag" series of National Defense pamphlets. No. 22.

Glasstone. *The Food You Eat.* A Practical Guide to Home Nutrition. Univ. of Oklahoma Press. 277 pp. $2.53.

Duncan. Food Processing. Turner E. Smith Co. $2.53.

Chapman. *Successful Farming in the South.* Turner E. Smith Co. 1939.

Blair. *The Food Garden.* Macmillan. 1942.

ELECTRICITY

PIT 101. *Fundamentals of Electricity.* (Government bulletin).

Williard. *Fundamentals of Electricity.* Ginn. $.93 net.

Beauchamp-Mayfield. *Basic Electricity* (tentative title). Scott-Foresman—(Forthcoming.) "Fits the pre-induction course."

Dull-Idelson. *Fundamentals of Electricity.* Holt. $1.48.

The three above titles are designed to go with the government outline of work, pre-induction course. (PIT 101).

Croft. *Practical Electricity.* McGraw-Hill. $3.00.

Jam Handy kit-set of slide-films (visual aid) on electricity. 12 slide-films, 888 pictures.

The Jam Handy Organization, 1775 Broadway, N. Y. (See also Aviation. This organization has other kits of slide-films to accompany study of various technical branches.)

MACHINES

PIT 102. *Fundamentals of Machines.* Government bulletin, pre-induction outline.

Cushing, *Fundamentals of Machines.* Ginn. $.93 net.

Dull-Newlin. *Fundamentals of Machines.* Holt. $1.48.

Clark. *Fundamentals of Machines.* Houghton-Mifflin.

The three above titles are intended for use with the government pre-induction outline, PIT 102.

Smith, *Mechanics.* McGraw-Hill. $1.75.

Elliott-Consoliver, *The Gasoline Automobile.* McGraw-Hill. $4.00.

CHEMISTRY

Ahrens, Bush, Easley. *Living Chemistry.* Ginn. $1.71 net.

An approach to chemistry rather different and more from the consumer standpoint than is usual. Manual available.

Des Jardins. *Vitalized Chemistry.* College Entrance Book Co. New York. 384 pp. $.50 net, paper; $.99 net, cloth.

Tuleen and others. *Test It Yourself.* A laboratory workbook. Scott-Foresman.

Stresses the importance of doing experiments to find out rather than doing them to confirm. Practical consumer chemistry. Needs a rather different set of reagents from that conventionally found in high-school laboratories unless remarkably well stocked.

The Chemistry Leaflet. Ellen H. Richards Institute. State College, Pa. Monthly during school year. $2.00.

(See description under general references.)

DuPont Magazine. E. I. duPont de Nemours, Wilmington, Del. Monthly.

Sent free to stockholders of the company on request; probably available to schools. Well-illustrated trade journal dealing with a large variety of chemical products and with chemical advances in both war and peace.

Steel Facts. American Iron and Steel Institute, 350 Fifth Ave., New York. Monthly.

Good illustrations. Articles on steel metallurgy and steel production, labor in steel industry, etc. Generally has one article on the history of iron and steel in America.

RADIO

Radio Amateur's Handbook. 1943. 20th edition.

American Radio Relay League. Hartford, Conn. $1.00.

Watson and others. *Understanding Radio.* McGraw-Hill. $2.80.

Instructional Radio Kit. $35.00.

Based on material developed at Ft. Benning, Ga., Infantry School and by Chief Signal Officer of U. S. Signal Corps, Washington, D. C.

Consists of (a) 17 double faced records
(b) instructor's manual
(c) 50 printing charts
(d) 25 pads of practice sheets.

Arrangements made that this be published by the following firms:
Chas. Scribner's Sons, 597 5th Ave., N. Y.
Ginn & Co., 70 5th Ave., N. Y.
Noble and Noble Publ. Co., 100 5th Ave., N. Y.
Silver Burdett Company, 45 East 17th St., N. Y.
Thos. Y. Crowell Co., 422 4th Ave., N. Y.

Additional records to carry students from speeds of 10 words per minute to 20 words per minute will be available. Standard kit carries students up to ten words.

Marcus-Horton. *Elements of Radio.* Prentice-Hall, 1942. 699 pp. $3.20.
Also obtainable in two volumes for use in separate semesters. Volume I is designed as a complete introduction to radio; Volume II is devoted to electrical theory, transmitters, and more advanced aspects of the study. Per volume $1.96.

CONSERVATION

Publications of the U. S. Bureau of Soil Conservation and of the TVA should be helpful in this connection.

Gustafson and others, *Conservation in the United States.* Comstock, Ithaca, N. Y. 1940. 455 pp. $3.00. Non-technical.

Fink, *Conservation for Tomorrow's America.* 144 pp. $.50.
Ohio Division for Conservation and Natural Resources. Columbus, Ohio.

Chase, *Goals for America.* Twentieth Century Fund. $1.00.

MISCELLANEOUS

Hawkins. *Fire Prevention Education.* National Board of Fire Underwriters. 355 pp. $.85 single.

Hayes. *Bombs, Buildings, and Shelters,* Air Raid Protection for the Home. Columbia University Press. 83 pp. $.60.

Smithsonian Institution. *The Natural History Background of Camouflage.*
Free on direct application.

Binger and Railey. *What the Citizen Should Know About Civilian Defense.* W. W. Norton. New York. 1942. 183 pp. $2.50.

Wartime Consumer Education. Bulletin National Asso. of Secondary School Principals. Nov. 1942.

Youth, War, and Victory

(From the report of a study of changes of attitude made by Vernon Jones of Clark University and published in *The Journal of Educational Psychology*)

Attitudes of opposition to war and its destruction of life and property can exist simultaneously with a determination to blast the enemy and all that he owns until he is removed as a threat to one's feeling of safety and security. . . . Within the humanitarian and the idealistic frames of reference (youth) hate war and have little confidence in it alone as a method of solving international disputes. But they hate the threat to their security and way of life more, and they are fighting for victory. It does not weaken their determination or efficiency in war to be opposed to war in certain frames of reference. Indeed, it may help their determination and effort, for they may gradually integrate their attitudes of hostility against aggressor nations, with humanitarian and idealistic considerations to the effect that they are fighting for a victory which will not permit such aggressor tactics in the future.

Summer School Offerings in Education at the University of North Carolina

War needs of the schools will have first call in the courses planned for teachers and school administrators by the Education Department for the summer session of 1943 at Chapel Hill.

In the courses to be offered this summer teachers and administrators will have an opportunity to survey the war requirements of the schools in the light of the most recent developments and under the direction of leaders in education's war effort. They will keep in touch with the latest available information regarding the High School Victory Corps and other youth-training plans. With the help of State and Federal specialists and visiting faculty from other institutions, as well as regular summer school staff, they will consider the problems of "guidance," extended school services for children, community health education programs, and similarly important areas of war-time education and child care. An effort will be made to meet certain needs not previously met—in the education of the deaf and hard of hearing, for example. The rural education needs of the Southeast will receive special consideration; for work in this field an outstanding visiting faculty member has been added to the staff—Miss Iman Schatzmann of Chicago, the author of an authoritative book on rural schools in all parts of the world.

Many of the courses previously offered in summer sessions will be adapted to war needs. This policy of adapting basic courses rather than to introduce large numbers of new, specialized courses limited to immediate war purposes has been adopted in recognition of a principle which is considered sound in peace as well as in war. "Such courses as those in the philosophy of education, comparative education, social policy and the schools, mental hygiene, and guidance acquire new significance when the issues at stake are those of the war and the post-war period," says an announcement by the University's Department of Education. "Curriculum revision, one of the most important tasks of recent years, becomes an immediate and pressing duty in war time. In the curriculum courses offered this summer teachers and school administrators will be helped to find ways of making necessary modifications and applications in science, mathematics, foreign languages, social studies, and other fields, but they will also have an opportunity to consider these changes for their permanent values as well as for their immediate war purposes."

Besides meeting war needs the Department of Education will continue to provide as much as it can of the professional program upon which hundreds of graduate students have already embarked. In many cases this itself will be meeting emergency war needs, members of the Education faculty point out, since courses in school administration and supervision are necessary to equip men and women not now in administrative posts to fill positions vacated by those drawn into military service and war industry. Moreover, the present situation, it is believed, makes more necessary than ever adequate provision for librarians and teachers of music, physical education, dramatics, and the fine and industrial arts.

"Workshop" techniques will be utilized to meet the needs of individuals and groups who come with special problems on which they need help. This will be especially true of the fine arts, health and physical education, and the relation of school and community. A "science institute" will be one of the special features of the session.

In addition to work at the Chapel Hill, Greensboro, and Raleigh units of the University, graduate courses will be available at the Appalachian State Teachers College, Boone, and at the Western State Teachers College, Cullohwee, in cooperation with the University of North Carolina.

Book Reviews

A Source Book of Mathematical Application, Seventeenth Yearbook, National Council of Teachers of Mathematics. Bureau of Publication. Teachers College, Columbia University, N. Y. 1942. Pp. xvi-291. $2.00.

In some respects this is the most significant book in mathematics to come from the press in recent years. For years it has been advocated that teachers of mathematics make the subject practical to the pupil or at least that the pupil should be made aware of its practical applications in real life. Few teachers of mathematics have had so rich and varied an experience in life as to be aware of its many applications in so many diverse fields. It is no doubt true that no teacher of high-school mathematics could be found who is perfectly familiar with all of the practical applications of mathematics and who would have all these applications right at his finger tips so that he could use them for purposes of illustration on a moment's notice.

In this book the mathematics teacher has a source to which he may go or to which he may send his pupil for a wealth of material which will illustrate beautifully the application of mathematics in many practical fields. It is really a handbook of such material. Here too may be found the methods and formulas for solving a great number of the problems which are met by the people who

are doing the work of the world. The number of applications and the number of different areas to which mathematics is applied is astounding.

The book covers the application of arithmetic, algebra, geometry and trigonometry to the practical problems of life. In no case does it go beyond the secondary level. The problems are classified under such headings as, *Daily Life, Engineering, Economics, Home Owner, Agriculture, Aviation, Foundry, Mechanics, Medicine, Photography, Physics, Automobiles, Library, Mineralogy, Banking, Industry, Interior Decorator, Merchant, Newsboy, Religion* (church finance), *Sociology, Sugar Manufacturer, Taxes, Geology, Housewife, Student, Music, Ballistics, Farm, Home, Electricity,* and many others.

Every high-school library should make this book available to the pupils in the school and every teacher should not only have a copy of it of his own but should use the book as a reference to which he sends his pupils for information and inspiration. He should use it to help the pupil answer the question why he should study mathematics as well as for the solutions of many problems he can not find solutions for elsewhere. This book will surely find an important place and minister to a real need in the teaching and study of mathematics.

H. F. MUNCH.

Youth Goes to War. LYLE M. SPENCER and ROBERT K. BURNS, assisted by LOUIS W. SIDRAN. Science Research Associates. Chicago. 1943. 223 pp.

This book is written to give young people information needed to enable them to find their individual places in the war effort. It includes (1) a description of the general set-up of the armed services, (2) a picture of the great number and variety of occupations represented within them and in support of them, (3) a listing of the main qualifications needed in order to enter them, (4) an account of training procedures and opportunities which each offers, (5) a description of needed services on the home front, (6) suggestions as to how best to approach the problem of findings one's place in the war effort—and afterward. Positions for boys and girls are treated in separate chapters. The need for specific purposeful training is at all times emphasized. The book ends with a classified list of nearly 400 occupations with sentence descriptions.

The whole book is necessarily brief. It will, however, be found very useful to the majority of young people in clarifying their ideas of service opportunities. The first two parts, of introductory nature, may well be temporarily skipped in the first reading, since the really personal interest is more strongly appealed to from the beginning of Part III.

C. E. PRESTON.

Education and Society: An Introduction to Education for a Democracy. SAMUEL SMITH, GEORGE R. CRESSMAN, and ROBERT K. SPEER. New York, Dryden Press, 1942.

No one pretends that we have solved the problem of the best way of introducing the study of education. In the past few years a number of excellent books have come out; some of us use these—seldom any one alone—in conjunction with as many real experiences in seeing and taking part in educational activities as can be provided. Especially concerned are we that teachers shall be aware of the needs and possibilities of human beings and human society. This book by Smith, Cressman, and Speer does something in this area that is of special value: It starts with the American community, taking up tolerance, conservatism, city and country environments, the American family, health of the American

community, economic status of the people, cultural backgrounds, and problems that are economic, psychological, and of the human relations type. Then it reviews the agencies of social progress—science, literature and the arts, churches, political institutions, business and labor organizations. Against this background the authors consider "education for society."

Those who wish to see prospective teachers introduced to the field of education in terms of democracy and community living and with a broadening view of social relationships in American life will find this book invaluable.

W. CARSON RYAN.

Education in the Elementary School. HOLLIS L. CASWELL. American Book Company, New York. 1942. Pp. xiv, 321.

As one would expect, knowing the experience of the writer in the public schools, this book, which analyzes the organization and practices, both administrative and instructional, of the elementary school, is a very valuable one for the professional library of the elementary school. It will prove especially valuable in a school in which the principal and teachers are working cooperatively to develop a better school program.

While the book deals with the elementary school, and while it is written for elementary school people, a great deal of the discussion and many of the suggestions are fully as applicable to the secondary school, especially where the faculty is concerning itself about children instead of subject-matter mastery as the primary consideration. This is especially true of the chapters, "Major Issues and Problems," "Aims of Education in the Elementary School," "Developing Social Understanding and Sensitivity," "Developing Creative Interests and Abilities," "Developing Command of Skills," "Organizing the Curriculum," and "Policies and Practices in Regulating Pupil Progress."

The Editor, Dr. George D. Strayer, evaluates the book very fairly in his preface:

> The author of this book has examined critically the trends in elementary education. He has found much that is good in the experience of the past. He has discounted the claims of the extremists who can see nothing of worth in the common practices of our elementary schools. He is sanely progressive. He recognizes the fact that the type of experience to be provided in the elementary school is controlled at the same time by a consideration of the way children learn to best advantage and by the social objectives to be realized by the schools. He has presented a fundamental philosophy of education, a critical analysis of the curriculum and of methods of learning. He has examined the organization of schools and of classes in order to propose the types of school organization which will most certainly contribute to the realization of the purposes of education.

The book is written in very simple, exceedingly readable style. It is essentially practical in the sense of offering, not an ideal school program, but patterns of suggestions drawn from actual school practice, from which any given teacher or groups of teachers, or principal may select those suited to their own needs and to the improvement of their own school's organization and teaching practices.

ROY W. MORRISON.

The Curriculum of Democratic Education. CHARLES C. PETERS. McGraw-Hill Book Company, Inc. New York. 1942. Pp. ix, 367. $2.75.

This book is frankly a text for use in a class of teachers or prospective teachers. With adequate interpretation and sufficient guidance in this use and in supplementary reading a class should secure a very satisfactory grasp of the

curriculum as the author conceives it. It is distinctly not a book which will prove useful as professional reading or reference material for a teacher or teacher group at work improving the school.

The Curriculum of Democratic Education for the author is a socialized curriculum, not merely with reference to the teacher's classroom procedure or the children's learning activities, but socialized in the sense of being drawn from and remaining a part of society, especially of the community. As the author suggests, however, sufficient readings and reports have been suggested that the student or students cooperatively may get adequate information of and views about other curricula. Unfortunately the author does not seem to plan for the student's "learning" of the curriculum through "socialized" procedures.

The book is excellently developed, though somewhat heavy in style. The organization is carefully planned. Each unit of content is short and well integrated. The composition of the three parts is unusual. In the first, the author develops his theory, with many illustrations, reinterpreting much of psychological and educational theory in terms of the theory of social utility. The second part, pp. 157-292, is a compilation of well-selected and well-organized examples of curriculum practices drawn from a wide range of schools as to type and locality. The last part is a series of detailed presentation of "blueprints" of the outcomes of the socialized curriculum, of personal culture, of optimum citizenship, of vital (physical) efficiency, of domestically efficient personality, of vocational efficiency, of social democracy, and of industrial democracy.

ROY W. MORRISON.

Guiding Child Development in the Elementary School. FREEMAN GLENN MACOMBER. New York. American Book Company, 1941. 335 pp.

This is a book on elementary education that every high-school teacher should read. When teachers ask about ways of teaching, they can be directed to Chapter I of Professor Macomber's book—the examples there given will answer many questions that cannot be answered in any other way. The book is fair, well written, with a sound underlying philosophy and a wealth of practical illustrations. We have no book as yet in the high-school field that approaches this for helpfulness to high-school teachers.

W. CARSON RYAN.

A Mathematics Refresher. A. HOOPER. New York. Henry Holt. Pp. x, 342.

This is one of the many recent books to come from the press designed to furnish the material for a thorough review of the mathematics usually taught in high school. It may also of course be used to extend the knowledge of those who have not pursued the study at least through trigonometry. The amount of space in the book is somewhat equally divided between arithmetic, algebra, geometry and trigonometry. It was designed as a refresher for those who will need mathematics either in industry or in the service of the nation in this time of war.

The explanatory material is unusually clear and concise. The material is well organized. The practical, apparently, has been always uppermost in the mind of the author. The problem material is especially good when evaluated from this standpoint. The author has also been mindful of the importance of accomplishing the end of getting the student to acquire an adequate working knowledge of mathematics in the least possible time. It is unfortunate that the table of capacity on page 336 gives 2 gal. = 1 peck and 4 pks. = 1 bu., which is not

true in terms of the units recognized by the Bureau of Standards of the United States.

However the book is a good one and could be used as a text for a mathematics course for the senior year of high school.

H. F. MUNCH.

Wartime Refresher in Fundamental Mathematics. W. C. EDDY, A. H. BROLLY, E. S. PULLIAM, E. C. UPTON, G. W. THOMAS. New York. Prentice Hall, Inc. 1942. Pp. viii + 248. $1.05.

This book, as the name implies, is designed to furnish the material by the use of which one may remove the tarnish accumulated on mathematical knowledge through disuse. It consists of carefully chosen material from the fields of arithmetic, algebra and geometry which is divided into twenty days' work. Each day's work consists of a glossary, in which pertinent definitions are given, a brief explanation and illustrative examples, a list of exercises to be solved by the student, and the solutions of the various exercises with the answers. At the end of each week's work there is a list of review exercises together with their solutions. At the end of the book there is a list of terms and their definitions.

The book was not intended as a text for pupils who are studying arithmetic, algebra and geometry for the first time and it should not be used as such. Those who use it in this way will surely fail. However, it does contain excellent, well-organized material which would serve well to make fresh again that knowledge which had once been the possession of a student but which had been forgotten. Hence it should fill a real need in present-day educational work.

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